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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/929,703	08/13/2001	Ulrich Friedrich	1000/0252PUS1	8886

60601 7590 11/08/2006

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EXAMINER
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AGHDAM, FRESHTEH N

ART UNIT	PAPER NUMBER
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2611

DATE MAILED: 11/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/929,703

Applicant(s)

FRIEDRICH, ULRICH

Examiner

Freshteh N. Aghdam

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 September 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-3, 5, 7, 10, 13-14, are 16-32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5, 7, 10, 13-14, and 16-32 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 9/18/2006 has been entered.

### ***Response to Arguments***

Applicant's arguments, see page 11, filed 9/18/2006, with respect to the rejection(s) of claim(s) 1-3, 5, 7, 10, 13-14, 16-32 under U.S.C. 112, first paragraph, as failing to comply with the written description requirement have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Nikula et al (US 7,031,334).

### ***Drawings***

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the features of first and

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second transceiver communicating must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

Claim 23 recites the limitation "said additional information" in line 4. There is insufficient antecedent basis for this limitation in the claim.

Claim 32 recites the limitation "the additional information" in line 1. There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 5, 13, 16-19, 21-22, 24-25, 27-30, and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nikula et al (US 7,031,334).

As to claims 1-2, 16-17, 24-25, 28, and 32 Nikula teaches a method for transmitting signals comprising assigning different modulation indices to different information blocks conveying data (Col. 2, Lines 32-47); modulating a signal using phase modulation (Col. 5, Lines 33-36); the modulation indices identifying a type of the conveyed data based on an amplitude of the amplitude modulation index, wherein at least one characteristic physical variable of the carrier signal is modulated in accordance with the different modulation indices assigned respectively to the information blocks that are modulated onto the carrier signal to produce a modulated signal (Col. 8, Lines 27-45); the modulated signal is transmitted from the first transceiver to the second transceiver, and the second transceiver evaluates the modulated signal to obtain the conveyed data (Col. 7, Lines 52-63; Col. 8, Lines 27-45); and transmitting the modulated signal from the transmitting device to a receiving device,

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wherein the receiving device evaluates the modulated signal to obtain the conveyed data (Col. 7, Lines 45-63; Col. 8, Lines 27-45). Nikula is not explicit about the modulation technique is an amplitude modulation technique. One of ordinary skill in the art would clearly recognize that instead of the phase modulation, an amplitude modulation technique could be used to vary the amplitude characteristic of the carrier signal instead of the phase or frequency which is very simple to implement and less efficient comparing to the other modulation techniques as it is well known in the art and compute the modulation index for the amplitude modulated signal accordingly, wherein the modulation index (i.e. modulation depth) is defined as by how much the modulated variable varies around its original level. Therefore, it would have been obvious to one of ordinary skill in the art to employ an amplitude modulation technique instead of frequency or phase modulation techniques for the reason stated above.

As to claims 3, 5, 27, and 29, Nikula further teaches transmitting successive blocks (Col. 2, Lines 32-47; Abstract).

As to claim 13, Nikula teaches a method for transmitting signals comprising assigning different modulation indices to different information blocks conveying data (Col. 2, Lines 32-47); modulating a signal using phase modulation (Col. 5, Lines 33-36); the modulation indices identifying a type of the conveyed data based on an amplitude of the amplitude modulation index, wherein at least one characteristic physical variable of the carrier signal is modulated in accordance with the different modulation indices assigned respectively to the information blocks that are modulated onto the carrier signal to produce a modulated signal, wherein at least one of the information blocks

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includes data for a control signal (i.e. signaling information) and the modulation index of the control signal is smaller than the modulation index of a data signal formed by others of the information blocks (Col. 8, Lines 27-45); the modulated signal is transmitted from the first transceiver to the second transceiver, and the second transceiver evaluates the modulated signal to obtain the conveyed data (Col. 7, Lines 52-63; Col. 8, Lines 27-45); and transmitting the modulated signal from the transmitting device to a receiving device, wherein the receiving device evaluates the modulated signal to obtain the conveyed data (Col. 7, Lines 45-63; Col. 8, Lines 27-45). Nikula is not explicit about the signaling information data for a setting a data rate. Kim discloses that the signaling information includes data rate (Col. 2, Lines 5-10). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teaching of Kim with Nikula in order to control data transmission and improving the communication system performance by employing the signaling information (Col. 1, Lines 66-67).

As to claims 18-19, Nikula teaches assigning different modulation indices to different information symbols and as the result identifying the type of information symbol whether it is a data or a control signal in the receiving device (Col. 3, Lines 13-20; Col. 7, Lines 44-51). Nikula is not explicit about the third and fourth modulation indices being assigned to the third and fourth information symbols. However, one of ordinary skill in the art would realize to assign third and fourth modulation indices to third and fourth information symbols in order to distinguish the type of information signal that is received in the receiving device and recovering the transmitted signal accordingly. Therefore, it

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would have been obvious to one of ordinary skill in the art to assign third and fourth modulation indices to third and fourth information symbols for the reason stated above.

As to claim 21, Nikula teaches transmitting information symbols utilizing different modulation schemes and modulation depths (i.e. indices; Col. 3, Lines 13-20; Col. 7, Lines 44-51).

As to claim 22, Nikula teaches that the different modulation indices respectively have predefined modulation index values that differ from one another by predefined differences that can be detected and differentiated between by the receiving device (Col. 7, Lines 45-67; Col. 8, Lines 27-45).

As to claim 30, Nikula teaches that at least one of said information symbols represents a control signal (i.e. signaling information) and further comprising receiving the control signal in the modulated information signal in the receiving device and controlling the receiving device responsively to the control signal (Col. 1, Lines 16-25; Col. 2, Lines 25-47).

Claims 7 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nikula et al, and further in view of J.P. Fonseka (IEEE ELECTRONICS LETTERS 2<sup>nd</sup> September 1999 Vol. 35 No.18).

As to claims 7 and 20, Nikula teaches transmitting information symbols utilizing different modulation schemes and modulation depths (i.e. indices; Col. 3, Lines 13-20; Col. 7, Lines 44-51). Nikula is not explicit about transmitting information symbols by varying the period lengths of modulation periods differ from one another to define



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additional information symbols. Fonseka teaches varying both the modulation index and the symbol duration simultaneously (Pg. 1517, Col. 2; Pg. 1518, Col. 1; Table 1 and 2). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teaching of Fonseka with Nikula in order to improve signal recovery by varying both modulation index and the symbol duration simultaneously (Pg. 1518, Col. 2).

Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nikula et al, further in view of Fujiwara (US 4,794,649).

As to claim 10, Nikula teaches transmitting signaling information along with the data information to a receiving device (Fig. 1-2). Nikula is not explicit about the signaling information being a clock signal. Fujiwara teaches in order to establish synchronization, a signaling information (i.e. clock signal) is transmitted to from the transmitting device to the receiving device (Col. 6, Lines 13-15). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teaching of Fujiwara with Nikula in order to control the receiver both in time and carrier frequency with the stream of synchronization symbols to increase accuracy of the communication system (Col. 1, Lines 65-67).

Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nikula et al and Fujiwara, further in view of Ricci et al (US 6,463,039).

As to claims 14, Nikula and Fujiwara teach all the subject matter claimed in claim 10, except for the second transceiver has no electronic circuit for clock generation and is a passive transponder that uses the clock signal for local clocking. Ricci teaches

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providing clock signal and power to the passive transponder (Col. 9, Lines 66 and 67; Col. 10, Lines 1-3). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teaching of Rucci with Nikula and Fujiwara in order to provide clock signal to the passive transponder for synchronization purposes and enhance system performance accordingly.

Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nikula et al, and further in view of Ricci et al.

As to claims 31, Nikula teaches all the subject matter claimed in claim 30, except for the second transceiver has no electronic circuit for clock generation and is a passive transponder that uses the clock signal for local clocking. Ricci teaches providing clock signal and power to the passive transponder (Col. 9, Lines 66 and 67; Col. 10, Lines 1-3). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teaching of Ricci with Nikula in order to provide clock signal to the passive transponder for synchronization purposes and enhance system performance accordingly.

Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nikula et al, and further in view of Landolsi (US 6,570,842).

As to claim 26, Nikula teaches all the subject matter claimed in claim 16, except for the modulation index being defined as the ratio of the maximum amplitude and a consistent amplitude modulation swing of the respective information signal. Landolsi defines the amplitude modulation index as the ratio of the maximum amplitude and a

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consistent amplitude modulation swing of the information signal (Col. 7, Lines 20-25).

Therefore, it would have been obvious to one of ordinary skill in the art to combine the teaching of Landolsi with Nikula in order to compute the modulation indexes.


### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Freshteh N. Aghdam whose telephone number is (571) 272-6037. The examiner can normally be reached on Monday through Friday 9:00-5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chieh Fan can be reached on (571) 272-3042. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Freshteh Aghdam  
October 23, 2006

  
KEVIN BURT  
PRIMARY EXAMINER